Observations from grading the midterm

Q1: Several answers were possible. But a correct answer should include appropriate part-of relations, specializations, and multiplicities.

Q3: Quite some answers did not make the speed input parameter and/or the actuation cmd flow explicit. Several answers were moreover not in line with the Q1 answers. An ibd defines the internals of a block from a bdd. Thus, it should list all parts of that block specified in the bdd. Some overlooked the fact that the ibds should only cover the minimal configuration and that the ultrasonic sensors could be omitted.

Q4: Many answers were too detailed, providing action overviews instead of UC overviews. Quite some answers had the ADAS system as scope but then had e.g. the SC as an actor (contradicting the Q1 answer where the SC was a part of the ADAS block). Several answers also had the SC as a use case. But the SC is an implementation artefact that the user is not aware of.

Q5: Several answers did not provide postconditions. Several had ‘driving safely’ (or something similar) as a postcondition. But the idea of a UC description is actually to make precise what that entails. Also, the steps of the UC should be given in some detail (because they are meant to be the basis for an activity diagram).

Q6: Many answers did not properly distinguish between opaque actions and call behaviors. The given ACC activity diagram and the statement that LKA and AEB activities should be considered defined, should have led to the conclusion that ACC, LKA, and AEB should be included as calls in the requested activity diagram. Another point is that quite some answers sequentialized these behaviors, whereas in reality, and according to the textual explanations, these are running in parallel. Finally, some answers violated the proper token flow and several answers were unnecessarily complicated because it was overlooked that only one loop iteration was asked for.

Q7: Given that a bdd was given in the description of the question and activities were introduced in Q6, an allocation of definition (activities to blocks) was the most straightforward and expected answer. Some answers mixed use (actions) with definition (blocks). Some answers that did provide an allocation of definition forgot to include the AP activity itself.

Q8: Some answers dit not represent much of the breakdown mentioned in the text (safety/(HW/SW)performance/cost), while this was explicitly asked for. Some had a counterintuitive breakdown with safety requirements independent of the performance requirements and/or the BOM requirement as a safety/performance requirement. Preferably, the HW requirements were refined to the component level.

Q9: Some had the swl parameter as input of the parametrics diagram. But this contradicts the constraint block definition.

Q10: Many made it too complicated by trying to compute turnover or profit. The analysis required only a cost difference analysis.